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10/696,832	10/30/2003	Naum Sapozhnikov		9117

7590 04/28/2005  
Naum Sapozhnikov  
Apt. 210  
1550 N. Poinsettia Pl.  
Los Angeles, CA 90046

EXAMINER

ADDIE, RAYMOND W

ART UNIT PAPER NUMBER

3671

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/696,832

Applicant(s)

SAPOZHNIKOV, NAUM

Examiner

Raymond W. Addie

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

In this case dependent claims 14-24 are separated from independent claim 10 by independent claim 13.

Further, Claim 10 positively recites "pavement for highways and streets of the preset strength safety level"; whereas claim 14 recites "pavement for highways and streets of uninterrupted traffic flow and high volumes of truck traffic, which is not provided for in Independent claim 10. Still Further, Claim 15 recites "pavement of highways and arterial streets of moderate volumes of truck traffic according to claim 10; which is not provided for by Claim 10. Claim 16 recites a concrete pavement of roads, residential streets and other streets of low volumes of truck traffic according to claim 10; which is not provided for by Claim 10.

Claim 11 has two periods ".." at the end of the claim. The 2<sup>nd</sup> period should be removed.

### ***Double Patenting***

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Applicant is advised that should claim 18 be found allowable, claims 20, 22 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.  
Claims 10-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S.

practice.

The claimed limitations do not clearly identify the invention sought to be patented.

Although a concrete pavement for highways is claimed, the following claim language is vague and relies on a bulletin from the Portland Cement Association, which is not provided. Hence, the scope of the limitation is indefinite.

In regards to claims 11, 18, 20, 22 the phrase "the sufficiency of reduced values of thickness of pavement corresponding to these values of modulus of rupture exceeding the mean value of flexural strength of concrete being compared against requirements of said Portland Cement Association Engineering Bulletin EB109P thickness design procedure"; is indefinite because the claimed "requirements of said Portland Cement Association Engineering Bulletin EB109P thickness design" is not defined in the claim. Hence, one of ordinary skill in the art, would have to find, and read the requirements of said Portland Cement Association Engineering Bulletin EB109P thickness design, in order to determine what is being claimed. Such a requirement is not proper. Therefore, one of ordinary skill in the art, would not know how to make or use the claimed invention, as claimed.

In regards to claim 12, the phrase "more complete utilization of flexural strength means...with the consecutive use of a plurality of values of modulus of rupture of concrete (MR) exceeding the mean value of flexural strength" is indefinite because the

scope of the "consecutive use of a plurality of values" is not defined in the claim and appears to be an infinite plurality of unknown values. Hence, without knowing the scope of the "plurality of values"; one of ordinary skill in the art, would not know how to make or use the claimed invention. Does the "plurality of values have an upper and lower limit?

In regards to claims 13 the phrase "pavement is determined by the value of modulus of rupture (MR) required according to said Portland Cement Association Engineering Bulletin EB109P thickness design procedure and equal to the mean value of 28-day flexural strength" is not defined by the claim, and one of skill would have to obtain the "Portland Cement Association Engineering Bulletin EB109P" in order to determine the scope of the claimed invention. Hence, the claim is indefinite.

Claims 10, 13 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: drawn to how, exactly, the flexural strength of concrete is more completely utilized and how that utilization results in a reduction in the thickness of the pavement.

In regards to claim 16, claim 16 recites the broad recitation beta equal at least 2.0, and

the claim also recites beta equal to about 2.0 which is the narrower statement of the range/limitation.

In regards to claims 17, 19, 21 The term "other recognized methods of thickness design" in claims is a relative term which renders the claim indefinite. The term " other recognized methods of thickness design " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How can a comparison be made, when one of skill in the art, does not know what is being compared?

In further regard to claim 17 the phrase "according to the requirements of the customer"; is indefinite, since the phrase is not defined by the claim, and it appears that any customer could have requirements different than that of another customer; and those differences would change the scope of the claimed invention, at any point in future time. Hence, the scope of the claimed invention is indefinite.

What if the customers' requirements cannot be met by the claimed invention?

What if, by satisfying the customers' requirements the final product is defective, inoperable or unsafe? Is such a final product also being claimed?

In regards to claim 23 The term "is replaced by more convenient mix design according to the value of specified compressive strength  $f_c^{1''}$  in claims is a relative term which renders the claim indefinite. The term is replaced by more convenient mix design according to the value of specified compressive strength  $f_c^{1''}$  is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How can a comparison be made, when one of skill in the art, does not know what is being compared?

Claims 10, 13 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: drawn to how, exactly, the flexural strength of concrete is more completely utilized and how that utilization results in a reduction in the thickness of the pavement.

Is this performed by random manipulation of known equations regarding the determination of the strength of concrete? Or is the "more complete utilization of flexural strength of concrete" resulting from some new way of mixing, pouring or finishing of the concrete pavement?



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A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 15 recites the broad recitation beta equal at least 2.5, and the claim also recites beta equal to about 2.5 which is the narrower statement of the range/limitation.

**Note to Applicant:** Due to the extensive indefiniteness of the claims, as cited above with respect to 35 U.S.C. 112 2<sup>nd</sup> paragraph issues; the Examiner has put forth the following rejections under 35 U.S.C. 102(b), with respect to the Examiners' most fair interpretation of the claimed invention.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Banthia et al. # 5,981,630.

Banthia et al. discloses a concrete pavement (15) having an intended, pre-set strength, pour-able to a desired thickness to resist fatigue, flexure, cracking; and having an energy absorption capability, to durability.

Wherein said concrete mixture being a composite of aggregate (16), a random distribution of reinforcing fibers (10) and having a modulus of rupture near 4.8 MPa.

See col. 1, Ins. 19-67; col. 9, Ins. 10-67.

4. Claims 10-23 are rejected under 35 U.S.C. 102(b) as being anticipated Bache # 4,979,992

Bache discloses a lightweight reinforced concrete material for use in highways, streets and roadways, having varying intended traffic load patterns.

Said reinforced concrete comprising: A composite matrix of cement (A) and a plurality of reinforcing fibers and bodies (B, D). Wherein said composite concrete can be formed to a variety of thicknesses, dependent upon the intended traffic load design and having

a bending capacity of approximately 150-300 MPa. See cols. 2-4; Figs. 29a-45.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banthia et al. # 5,981,630 in view of Hall et al. # 4,188,232.

Banthia et al. discloses the claimed invention except for the specific range of the modulus of rupture and specified range of compressive strength of the concrete pavement. However, Hall clearly teaches standard concrete is known to have a modulus of rupture in the range of 550-750 psi and a compressive strength between 3,000-7,000 psi. Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made to make the concrete pavement of Banthia et al., to have an (MR) in the range of 550-750 psi and a compressive strength in the range of 3000-7000 psi, as taught by Hall et al. since these are known characteristics of standard concrete, give a pre-determined amount of slump. See Hall et al. Tables II, 3-11; Cols. 1-4.

6. Claim 24 are rejected under 35 U.S.C. 102(b) as being anticipated Bache # 4,979,992 in view of Hall et al. # 4,188,232.

Bache discloses a lightweight reinforced concrete material for use in highways, streets and roadways, having varying intended traffic load patterns. But does not disclose the specific range of (MR) and compressive strength recited in claim 24. However, Hall clearly teaches standard concrete is known to have a modulus of rupture in the range of 550-750 psi and a compressive strength between 3,000-7,000 psi. Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made to make the concrete pavement of Bache to have an (MR) in the range of 550-750 psi and a compressive strength in the range of 3000-7000 psi, as taught by Hall et al. since these are known characteristics of standard concrete, give a pre-determined amount of slump. See Hall et al. Tables II, 3-11; Cols. 1-4

### ***Response to Arguments***

7. Applicant's arguments filed 02/08/2005 have been fully considered but they are not persuasive.

Applicant argues "Applicant is not concerned with a concrete formulation, including reinforcing fibers as in Banthia".

In response to Applicant's argument that Banthia includes additional structure not required by Applicant's invention, it must be noted that Banthia discloses the invention as claimed.

The fact that it discloses additional structure not claimed is irrelevant.

Further, with respect to Applicants' statement that "entry under the provisions of 37 CFR 1.116 is requested as placing the application in better form for appeal"; it does not appear as though the formally filed amendment to the claims, on 02/08/2005, places the application in better form for appeal, due to the 35 U.S.C. 112, 2<sup>nd</sup> paragraph issues cited above.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Addie whose telephone number is (571) 272-6986. The examiner can normally be reached on Monday-Saturday from 7:00 am to 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (571) 272-6998.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas Will  
Supervisory Patent Examiner  
Group 3600

RWA  
4/22/2005